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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,065	04/30/2001	Samson X. Huang	INTL-0563-US (P11334)	4510

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08/12/2003

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EXAMINER

DHARIA, PRABODH M

ART UNIT

PAPER NUMBER

2673

DATE MAILED: 08/12/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/846,065

Applicant(s)

HUANG, SAMSON X.

Examiner

Prabodh M Dharia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because the abstract is not in narrative form and not a single paragraph on a, repeating the information given in the title. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-15, are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al. (5,073,010).

Regarding Claim 1, Johnson et al. teaches a method comprising: negatively biasing a spatial light modulator; and reversing the bias (Col. 5, Lines 52-55, Col. 6, Line60 to Col. 7, Line 11).

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Regarding Claim 2, Johnson et al. teaches biasing a top plate and a pixel electrode (Col. 10, Lines 11-26).

Regarding Claim 3, Johnson et al. teaches biasing said top plate to a negative voltage (Col. 10, Lines 19-26).

Regarding Claim 4, Johnson et al. teaches maintaining said pixel electrode at a positive voltage (Col. 10, Lines 38-50).

Regarding Claim 5, Johnson et al. teaches biasing said pixel electrode across its full dynamic range (Col. 10, Lines 38-50).

Regarding Claim 6, Johnson et al. teaches alternately biasing the top plate negatively and positively (Col. 10, Lines 19-26, Lines 38-50).

Regarding Claim 7, Johnson et al. teaches a spatial light modulator (Col. 5, lines 52-55) comprising: a top plate (Col. 10, Lines 21-24); a liquid crystal layer (Col. 6, lines 54-59); a pixel electrode (Col. 9, Lines 42-58), said top plate and said pixel electrode sandwiching said liquid crystal layer (Col. 6, lines 39-59, Col. 9, lines 42-65); and a drive circuit to apply positive and negative bias potentials to one of said electrode and said top plate (Col. 9, lines 42-65, Col. 10, Lines 19-26, Lines 38-50).

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Regarding Claim 8, Johnson et al. teaches a drive circuit to apply a negative bias potential to said top plate (Col. 9, lines 42-65, Col. 10, Lines 19-26, Lines 38-50).

Regarding Claim 9, Johnson et al. teaches wherein said spatial light modulator is a liquid crystal over silicon spatial light modulator (Col. 5, lines 52-55, Col. 6, Lines 39-59, Col. 9, lines 42-65).

Regarding Claim 10, Johnson et al. teaches wherein said drive circuit applies positive and negative bias potentials in alternating frames (Col. 6, Line 60 to Col. 7, Line 11, Col. 9, Line 66 to Col. 10, Line 10).

Regarding Claim 11, Johnson et al. teaches wherein said top plate is formed of indium in oxide (Col. 6, Lines 54-59, Col. 9, Lines 42-65).

Regarding Claim 12, Johnson et al. teaches a method comprising: applying a positive bias to a spatial light modulator in a negative frame ; and applying a negative bias to a spatial light modulator during a positive frame to reduce the magnitude of the positive voltage that is necessary to bias the spatial light modulator (Col. 9, Line 66 to Col. 10, Line 26).

Regarding Claim 13, Johnson et al. teaches biasing a top plate and a pixel electrode (Col. 10, Lines 11-26).

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Regarding Claim 14, Johnson et al. teaches biasing said top plate to a negative voltage (Col. 10, Lines 19-26).

Regarding Claim 15, Johnson et al. teaches maintaining said pixel electrode at a positive voltage (Col. 10, Lines 38-50).

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is informed that all of the other additional cited references render the claims obvious.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

McKnight (6,369,832 B1) Pixel buffer circuits for implementing improved methods of displaying gray-scale or color images.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M Dharia whose telephone number is 703-605-1231. The examiner can normally be reached on M-F 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703-3054938. The fax phone numbers for the

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organization where this application or proceeding is assigned are 703-872-9341 for regular communications and 703-872-9341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Any response to this action should be mailed to:


Commissioner of Patents and Trademarks

Washington, D.C. 20231

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July 25, 2003


Amare Mengistu
Primary Examiner